

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: GUINEA POND	Lake Area (ha):	4.05
Town: SANDWICH	Maximum depth (m):	6.5
County: Carroll	Mean depth (m):	1.7
River Basin: Merrimack	Volume (m <sup>3</sup> ):	69500
Latitude: 43°51'38" N	Relative depth:	2.8
Longitude: 71°29'24" W	Shore configuration:	1.07
Elevation (ft): 1435	Areal water load (m/yr):	44.49
Shore length (m): 760	Flushing rate (yr <sup>-1</sup> ):	25.90
Watershed area (ha): 283.5	P retention coeff.:	0.38
% watershed ponded: 1.1	Lake type:	natural w/dam

BIOLOGICAL:

29 January 1996

30 August 1995

DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 75%	CHRYOSOPHAERELLA 50%
	#2	DINOBRYON 15%	PERIDINIUM 25%
	#3		DINOBRYON 20%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			11.26
DOM. ZOOPLANKTON (% TOTAL)	#1	SYNCHAETA 50%	KERATELLA 44%
	#2	KERATELLA 33%	NAUPLIUS LARVA 28%
	#3		CYCLOPOID COPEPOD 10%
ROTIFERS/LITER		103	774
MICROCRUSTACEA/LITER		2	623
ZOOPLANKTON ABUNDANCE (#/L)		108	1397
VASCULAR PLANT ABUNDANCE			Abundant
SECCHI DISK TRANSPARENCY (m)			2.5
BOTTOM DISSOLVED OXYGEN (mg/L)		0.5	0.0
BACTERIA (E. coli, #/100 ml)	#1		2
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	4.6
Hypolimnion volume (m <sup>3</sup> ):	875
Anoxic volume (m <sup>3</sup> ):	6225

**CHEMICAL:**

Lake: GUINEA POND  
Town: SANDWICH

	29 January 1996		30 August 1995		
DEPTH (m)	2.0	4.0	2.0		4.0
pH (units)	5.0	5.2	6.0		5.7
A.N.C. (Alkalinity)	0.2	0.2	1.6		1.9
NITRATE NITROGEN	0.12	0.12	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.29	0.26	0.47		0.58
TOTAL PHOSPHORUS	0.007	0.013	0.013		0.019
CONDUCTIVITY ( $\mu$ mhos/cm)	20.8	21.0	18.4		19.7
APPARENT COLOR (cpu)	45	45	48		55
MAGNESIUM			0.23		
CALCIUM			1.8		
SODIUM			< 1.0		
POTASSIUM			< 0.40		
CHLORIDE	2	2	2		2
SULFATE			3		3
TN : TP	59	29	36		31
CALCITE SATURATION INDEX			4.8		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1995**

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	3	5	2	14	Eutro.

**COMMENTS:**

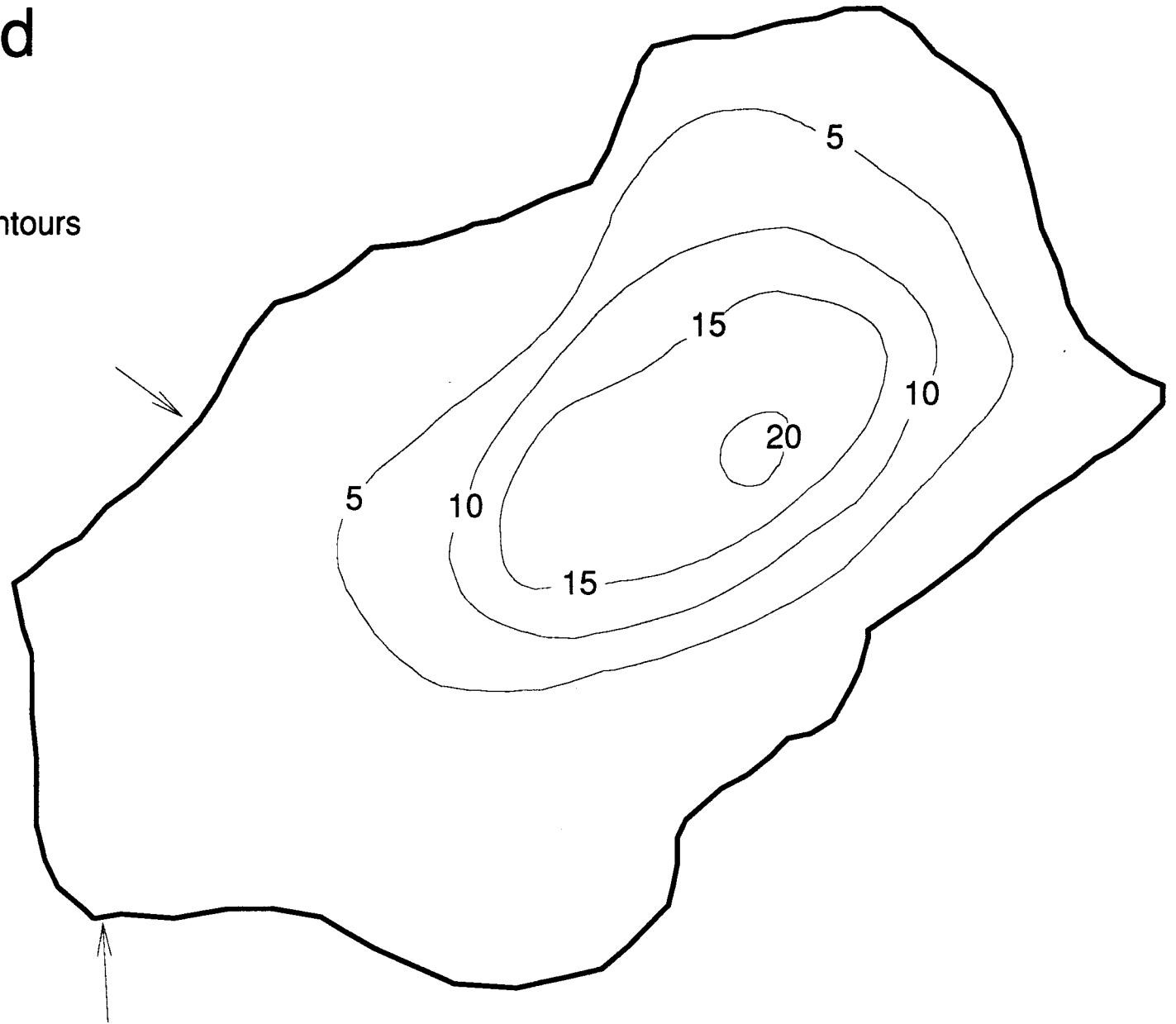
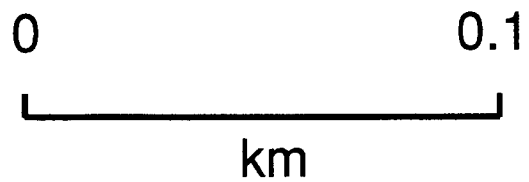
1. This is a remote marshy pond sampled cooperatively with the Fish and Game Department.
2. The pond has been sampled sporadically in the spring as part of Fish and Game's helicopter stocking program.
3. This pond is an example of a remote, somewhat acid pond that is eutrophic and probably naturally acidic. It has tea-colored water, abundant macrophyte growth and no dissolved oxygen below the epilimnion. Both phytoplankton and zooplankton were abundant.

# Guinea Pond Sandwich

5 foot depth contours



111 - 82



[illegible]

TOWN: SANDWICH  
WEATHER: SUNNY & BREEZY

[illegible]

**COMMENTS :**

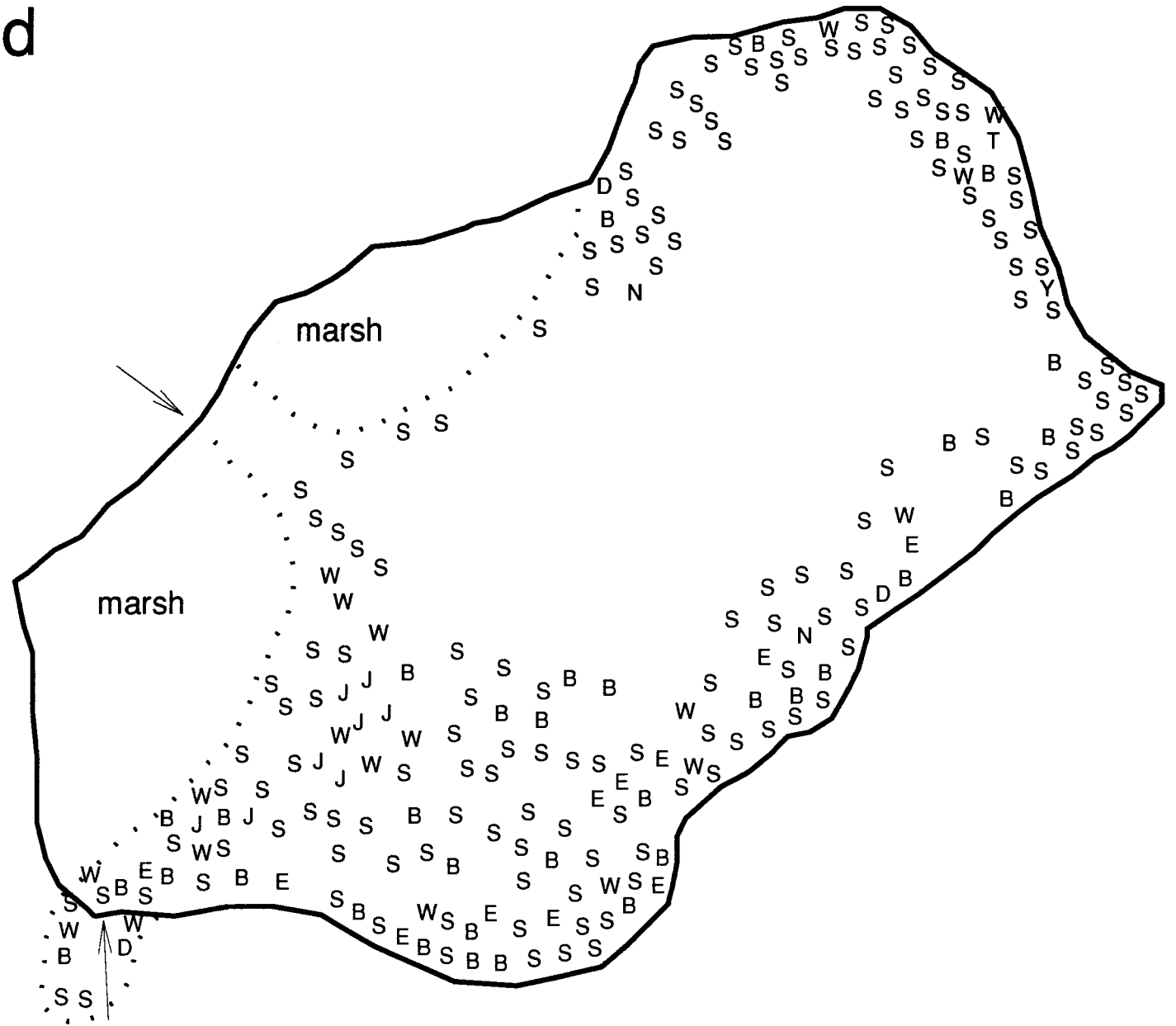
\*Dissolved oxygen values are in mg/L

# Guinea Pond Sandwich

111 - 84



0 0.1  
km



## AQUATIC PLANT SURVEY

LAKE: GUINEA POND

TOWN: SANDWICH

DATE: 08/30/95

[illegible]

**OVERALL ABUNDANCE:** Abundant

**GENERAL OBSERVATIONS:**

1. Bladderwort and non-flowering thread-like leaves were abundant over the entire bottom. They are not depicted on the map.
2. Filamentous algae was along the bottom in the outlet area.
3. The western and southwestern shores, including the inlet and outlet areas, were marsh areas.